

## Title (en)

pH DEPENDENT CARRIERS FOR TARGETED RELEASE OF PHARMACEUTICALS ALONG THE GASTROINTESTINAL TRACT,  
COMPOSITIONS THEREFROM, AND MAKING AND USING SAME

## Title (de)

PH-ABHÄNGIGE TRÄGER ZUR GEZIELTEN FREISETZUNG VON PHARMAZEUTIKA ENTLANG DEN GASTROINTESTINALTRAKTS,  
ZUSAMMENSETZUNGEN DARAUS SOWIE IHRE HERSTELLUNG UND VERWENDUNG

## Title (fr)

VECTEURS DÉPENDANT DU PH POUR LIBÉRATION CIBLÉE DE PRODUITS PHARMACEUTIQUES DANS LE TUBE DIGESTIF,  
COMPOSITIONS PRÉPARÉES À PARTIR DE CEUX-CI, ET LEUR FABRICATION ET LEUR UTILISATION

## Publication

**EP 2760433 A4 20150701 (EN)**

## Application

**EP 12837423 A 20120929**

## Priority

- US 201161540699 P 20110929
- US 2012058163 W 20120929

## Abstract (en)

[origin: WO2013049749A2] Novel drug carriers capable of targeted and/or pH dependent release of biologically active agents into selected pH environments including the gastrointestinal (GI), ophthalmic, urinary, or reproductive tracts. Unexpectedly, carriers including free fatty acids (FFA) are able to deliver biologically active agents to various pH environments. Such targeted delivery is tailorable and useful for active agents that are: (a) injurious to the upper GI tract (esophagus, stomach, and duodenum), (b) acid labile, (c) impermeable/insoluble compounds in GI fluids, (d) susceptible to first pass metabolism, and/or (e) cause stomach irritation, upset, or dyspepsia.

## IPC 8 full level

**A61K 9/10** (2006.01); **A61K 9/14** (2006.01); **A61K 9/16** (2006.01); **A61P 1/00** (2006.01); **A61P 1/04** (2006.01)

## CPC (source: EP KR US)

**A61K 9/0002** (2013.01 - US); **A61K 9/0095** (2013.01 - KR); **A61K 9/10** (2013.01 - KR); **A61K 9/4858** (2013.01 - EP US);  
**A61K 31/192** (2013.01 - EP KR US); **A61K 31/196** (2013.01 - EP KR US); **A61K 31/405** (2013.01 - EP US); **A61K 31/5415** (2013.01 - KR);  
**A61K 31/60** (2013.01 - EP KR US); **A61K 31/616** (2013.01 - EP US); **A61K 45/06** (2013.01 - EP US); **A61K 47/12** (2013.01 - KR US);  
**A61K 47/14** (2013.01 - KR US); **A61K 47/24** (2013.01 - KR US); **A61P 1/00** (2017.12 - EP); **A61P 1/04** (2017.12 - EP); **A61P 29/00** (2017.12 - EP)

## Citation (search report)

- [X] EP 0287036 A2 19881019 - ONO PHARMACEUTICAL CO [JP]
- [X] WO 2008025819 A2 20080306 - ALTERGON SA [CH], et al
- [X] EP 0407815 A2 19910116 - EISAI CO LTD [JP]
- [X] US 4079132 A 19780314 - LIN SONG-LING, et al
- [X] US 2004077604 A1 20040422 - LICHTENBERGER LENARD [US]
- [X] US 2004146537 A1 20040729 - RADHAKRISHNAN RAMACHANDRAN [IN], et al
- [X] WO 2008068276 A1 20080612 - IBSA INST BIOCHIMIQUE SA [CH], et al
- See references of WO 2013049749A2

## Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

## Designated extension state (EPC)

BA ME

## DOCDB simple family (publication)

**WO 2013049749 A2 20130404; WO 2013049749 A3 20130711;** AU 2012315545 A1 20140515; AU 2012315545 B2 20170309;  
CA 2850187 A1 20130404; CA 2850187 C 20211207; CN 103957888 A 20140730; CN 103957888 B 20171121; EP 2760433 A2 20140806;  
EP 2760433 A4 20150701; EP 2760433 B1 20230531; HK 1200098 A1 20150731; JP 2014531460 A 20141127; JP 2017222650 A 20171221;  
JP 2020090499 A 20200611; JP 6368645 B2 20180801; JP 6799504 B2 20201216; KR 102162901 B1 20201008; KR 102180667 B1 20201120;  
KR 102188840 B1 20201210; KR 20140105436 A 20140901; KR 20200008032 A 20200122; KR 20200118219 A 20201014;  
MX 2014003890 A 20141126; MX 340951 B 20160729; MX 356017 B 20180508; US 10179104 B2 20190115; US 10646431 B2 20200512;  
US 10786444 B2 20200929; US 2013090313 A1 20130411; US 2014094439 A1 20140403; US 2014094526 A1 20140403;  
US 2017304190 A1 20171026; US 2019070099 A1 20190307; US 2020222309 A1 20200716; US 9216150 B2 20151222;  
US 9226892 B2 20160105; US 9730884 B2 20170815

## DOCDB simple family (application)

**US 2012058163 W 20120929;** AU 2012315545 A 20120929; CA 2850187 A 20120929; CN 201280058596 A 20120929;  
EP 12837423 A 20120929; HK 15100531 A 20150116; JP 2014533449 A 20120929; JP 2017114115 A 20170609; JP 2019233609 A 20191225;  
KR 20147010768 A 20120929; KR 20207001049 A 20120929; KR 20207028008 A 20120929; MX 2014003890 A 20120929;  
MX 2016006458 A 20120929; US 201213631963 A 20120929; US 201313791189 A 20130308; US 201313908233 A 20130603;  
US 201715644694 A 20170707; US 201816183616 A 20181107; US 202016833371 A 20200327